



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/750,414

12/31/2003

Michael J. Mills

75622P005601

4652

22503

7590

11/20/2008

DAVIS & ASSOCIATES

P.O. BOX 1093

DRIPPING SPRINGS, TX 78620

EXAMINER

JAMAL, ALEXANDER

ART UNIT

PAPER NUMBER

2614

MAIL DATE

DELIVERY MODE

11/20/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/750,414	Applicant(s) MILLS, MICHAEL J.	
	Examiner ALEXANDER JAMAL	Art Unit 2614	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 August 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) _____ is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-28 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Communication

1. Based upon the submitted arguments, entered via RCE, the examiner notes that arguments have been submitted.
2. Based on applicant's submitted arguments, the examiner presents a new set of 112 rejections below.
3. Examiner note's applicant's comments regarding the possible double patenting rejections with applications 10/750415, and 10/750559. The examiner has checked the applications and there does not appear to be a double patenting rejection at this time. However the examiner reserves the right to issue a double patenting rejection based on the final form of the claims of this case.
4. The examiner presents a set of rejections based on the originally cited prior art.
5. The examiner presents an additional rejection on independent claims 1,12,27 based on newly discovered prior art US patent to Voegeli et al. (6651178). The examiner notes that this patent may read on the dependant claims as well, either alone or in combination with the previously cited art.
6. The examiner notes that should applicant clearly differentiate (as enabled by the specification) the DAC referenced in the claims from the DAC specified by the examiner in Pruecklmayer, then a 103 rejection could still be made by Pruecklmayer in view of Voegeli.

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. **Claims 1-28** rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As per **claims 1-28**, the claims recite controlling the value of a power supply controller parameter in order to vary a power supply. It is not clear what exactly would be considered a power supply controller parameter. Further, it is not clear exactly how any type of supply controller parameter would correspond to one of a loopfilter/ADC/DAC setting. Further it is not clear exactly what a loopfilter/ADC/DAC setting could comprise. Applicant's submitted arguments argue that examiner cited prior art does not disclose said 'settings and parameters', as such the examiner contends that it is not clear exactly what the recited settings/parameters could comprise. For the purpose of examination, the examiner assumes that the cited prior art does disclose the extremely broad recitation of a power supply parameter correlated to one of a loopfilter/ADC/DAC setting.

Claim Rejections - 35 USC § 102

Art Unit: 2614

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. **Claims 1-5,7-9,11-16,18,21,25-28** are rejected under 35 U.S.C. 102(e) as being anticipated by Pruecklmayer et al (7092517).

As per **claims 1,12,27**, Pruecklmayer discloses a SLIC driver bias control system with a supply level controller (Fig. 3) that supplies a SLIC with differing supply levels used to power SLIC line drivers (abstract). The parameter of a pulse width (by a modulator)) is dynamically controlled based off of the supply control parameter of loop impedance (Col 3 lines 1-10,abstract). The examiner notes that the aforementioned system devices provide the means of claim 27 and perform the method of claim 1. The pwm regulator is a digital to analog converter that converts a digital pulse train to an analog supply voltage. The different pulse width parameters correspond to a DAC setting.

As per **claims 2,4,13,15**, the operating parameter of the pwm DC-DC converter is based on the operating parameter (loop impedance) of the SLIC. The operating parameter of the SLIC could also be the ‘operating state’ of the SLIC such as on-hook and off-hook, which are dependant upon the loop impedance.

Art Unit: 2614

As per **claims 3,14**, (Col 2 lines 30-40) there is a feedback path measuring loop current, which is an up to date indication of the supply level.

As per **claims 5,16,28**, Col 1 lines 10-15 disclose that the device is a SLIC which performs the standard Borsht function which include onhk/offhk/ringing.

As per **claims 7,18**, the feedback signal will indicate a target supply level to the PWM supply.

As per **claims 8,19**, the control parameters used to create the PWM pulse signal will be varied based on the feedback signal, which is based on the loop current (loop/voltage and impedance). The Loop impedance is based on the operating state of the slic (onhook,offhook) (it provides the target for each operating state).

As per **claims 21**, the modulator is dynamically controlled.

As per **claims 11,25**, the converter is a DC-DC converter that uses a PWM signal to set the voltage.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. **Claims 6,19,17,20,22,23,24** are rejected under 35 U.S.C. 103(a) as being unpatentable over Pruecklmayer et al (7092517) as applied to claims 1,2,12,13, above, and further in view of Kernahan (6911809).

As per **claims 6,17**, Pruecklmayer discloses a dynamic supply controller for a SLIC but does not specify controlling the supply controller parameters are based on a range of values.

Kernahan discloses programmable DC converters that can be implemented to be fully programmable and provide specific ramp-ups and ramp downs (Col 11 line 40 to Col 12 line 10). The values are controlled by a microprocessor that is a digital system which inherently required an A/D converter to convert measured signals into digital values. A digital system would control internal parameters based measured and digitized parameters, which are based on a range of measured analog values. It would have been obvious to one of ordinary skill in the art at the time of this application to implement the programmable DC converters into the variable supply system of Pruecklmayer for the added advantage of controlled transitions and dynamic programmability.

As per **claims 9, 20**, the target values will be based on digital values, which correspond to analog ranges of values (depending on the resolution of A/D and D/A converters).

As per **claim 22**, Kernahan discloses a programmable loop filter (which inherently compensates) (Col 35 lines 30-40).

As per **claim 23, 24**, in Kernahan, all parameters of the power supply are programmable. This would include the resolution of the inherent A/D converters and the

Art Unit: 2614

disclosed D/A converters (Col 11 line 40 to Col 12 line 10) in the measuring/controlling functions.

Additional rejection for independent claims

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. **Claims 1,12,27** are rejected under 35 U.S.C. 102(e) as being anticipated by Voegeli et al. (6651178)

As per **claims 1,12,27**, Voegeli discloses a variable power supply (including means and method) to supply different supply levels to electronic circuitry. The supply regulates the power (which is a dynamic process) via a programmable DAC (Col 1 lines 15-30). The system could also be read as ‘dynamic’, in the sense that it adapts to differing loads or circuits to be supplied (Col 1 lines 40-60). The voltage identifier referenced in Voegeli is a parameter that corresponds to a DAC setting.

Response to Arguments

Art Unit: 2614

As per applicant's argument that the cited prior art does not disclose a controller parameter corresponding to a loopfilter/ADC/DAC setting. The examiner notes the new 112 rejection above requesting applicant to clarify exactly what the 'setting' may comprise. The examiner contends that the cited prior art reads on a broad reading of applicant's claims as written.

As per applicant's argument that the cited prior art does not disclose 'dynamically' varying the power, the examiner disagrees strongly and notes that any type of regulation in a power supply may be considered 'dynamic' because the regulating signal (such as pulses) change in response to the load seen by the supply.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alexander Jamal whose telephone number is 571-272-7498. The examiner can normally be reached on M-F 9AM-6PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Curtis A Kuntz can be reached on 571-272-7499. The fax phone numbers for the organization where this application or proceeding is assigned are **571-273-8300** for regular communications and **571-273-8300** for After Final communications.

/Alexander Jamal/

Primary Examiner, Art Unit 2614

Examiner Alexander Jamal

November 20, 2008